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In the parent case, claims 4-5, 9, 11-14, 17-20 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite. The Examiner pointed out claim terminology of concern and inquired whether the terminology was shown in the drawings. Applicants have re-filed the application with new claim numbering and amendments or explanation that address the Examiners concern. The following table lists the claim number in the parent case, the claim number in the present case, the questioned terminology, and the figures and paragraph number(s) that are relevant to the terminology. A detailed explanation follows with respect to each of the present claims and changes made to make them definite.

Claim in Parent Case No.	Present Claim No.	Claim Terminology in Previous Case	Relevant Figs./Paragraph Nos.
4	1	"electrodes"	Fig. 9 (35,35'37), §52, 57
5 and 9	2-4	"light source intensity driver circuit"	Figs. 2, 6 and 16, §42
13	5	"temperature control unit"	Fig. 9 (90), §19 §61
11	6	"temperature sensor"	Fig. 9 (86). §61.
12	7	"heating device"	Fig. 9 (82), §61
14	8	"null circuit"	Figs. 1,9, §56-59.
17	9	"an analog to digital AC calibration circuit for producing an AC calibration voltage"	Figs. 1, 17 (110), §36, 64-68.
18	10	"a voltage correction table"	Figs. 1, 17 (101), §41, 63, 70
19	11	"a frequency correction table"	Figs. 1,17 (103), §41, 63, 70
20	12	"a circuit for providing an output voltage that is the root mean square voltage of said applied electric field"	Figs. 1-5, §39-44

Claim 1 ("electrodes" in section a) 3)). The "electrodes" are designated in Fig. 9 with numerals 35, 35', and 37 and are discussed in paragraphs 52 and 57. These electrodes are the

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means by which an unknown alternating current voltage (electric field) is applied to an electro-optic material 31 in order to modulate the light 22 passing through the electro-optic material 31. Applicants have amended paragraph 52 to add the numeral 37 for the ground electrode. The basis for this change is readily apparent from ground symbol associated with item 37 in Fig. 9 and the use of numeral 37 in paragraph 57.

Claims 2-4 ("a light source intensity driver circuit"). This terminology is no longer used. The last portion of section d) of claim 2 now reads: ". . . and wherein said third voltage is used to control the intensity of said light source". This arrangement is shown in Figs. 2, 6, and 16 and basis is found in paragraph 42.

Claims 5-7 ("a temperature control unit", "temperature sensor", and "heating device"). These components are illustrated in Fig. 9 and discussed in paragraph 61. Applicants have amended paragraph 61 and Fig. 9 to render the claim language definite and to distinctly point out the subject matter of the invention. In Fig. 9, the environmental container is indicated by the numeral 80 and the "temperature control unit" is indicated by the added numeral 90. The temperature sensor, e.g., thermistor, is indicted as 86 in Fig. 9. In this regard, the text in paragraph 61 has been amended to change the numeral 88 to 86. The heating device, e.g., heater, is indicated as numeral 82 in Fig. 9. Applicants have amended Fig. 9 and the text of paragraph 61 to conform the wording of the text, to match that which is shown in Fig. 9 and used in claims 5-7. Basis for the term "temperature control unit" is found in paragraph 19 and in original claim 13 of the parent application.

Claim 8 ("null circuit"). The term "null circuit" is no longer used, The phrase, "a biasing voltage [in lead 145] applied to said electro-optic material [31] for setting said electro-optic material to provide essentially zero output," is now used in section e) of the claim. Lead 145 is illustrated in Figs. 1 and 9 and discussed in paragraphs 56-59. Paragraph 56 has been amended to add the terminology "biasing voltage in lead 145" to conform what is shown in the drawings with the text.

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Claim 9 ("an analog to digital AC calibration circuit for producing an AC calibration voltage"). This terminology is no longer used. Part e) of claim 9 now reads: "an ac calibration source with analog to digital conversion for applying a known ac voltage at a known frequency to said electro-optic material." The ac calibration source is designated as numeral 110 in Fig. 1. Fig. 17 is a detailed diagram of the ac calibration source. The ac calibration source 110 is noted in paragraph 36 and discussed in detail in paragraphs 64-70.

Claims 10-11 ("a voltage correction table" and "a frequency correction table") . This terminology is no longer used. Claims 10-11 have been amended to refer to these tables as "lookup tables" consistent with their description found in the specification in paragraphs 41, 63, and 70. Paragraph 70 has been amended to render explicit the inherent frequency and voltage aspects of the lookup tables as apparent from their description in paragraph 70. As noted in paragraph 63, the lookup tables are stored in computer 100 (Figs. 1 and 17). As such, voltage and frequency lookup tables have been added in Figs. 1 and 17 and designated as parts 101 and 103, respectively.

Claims 12 ("a circuit for providing an output voltage that is the root mean square of said applied electric field") This terminology is no longer used. Claim 12, part d) has been amended to read: "one or more circuits interconnected with said averager circuit to provide an output voltage that is the root mean square of said applied electric field." These circuits are shown in Figs. 1-5 and discussed at paragraphs 39-44. For example, in Figs. 2 and 16, an inverse ratio circuit 60 is used to provide the output voltage 54 that is the root-mean square of the applied electric field 28.

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Claims 13-20.

These claims are directed to the Mach-Zehnder-type interferometer illustrated in Fig. 9 and operating as a "squarer" device further illustrated at Fig. 10, i.e., operating at points A or B rather than as a "linear" device operating at C. This is discussed at paragraphs 52-59.

Typographical Changes

In addition to the amendments noted above, the following changes have been made to the claims, specification and drawings.

Claim 19 has been amended to change "as" to –at –.

The Federal Research Statement has been amended to delete "[Federal research Statement Paragraph] introduced as part of the PASAT formatting program and the word "Navel" has been changed to –Naval–.

Paragraph 0018 has been amended to change "room-mean" to –root-mean–.

Paragraph 0019 has been amended to change "it" to –its–.

Paragraph 0039 has been amended to change "feed" to –fed–.

Paragraph 0045 has been amended to add the verb –is used –.

Paragraph 0052 has been amended to change "10 Φm" to – 10 μ m –(two occurrences) and "pad" to –paths –.

Paragraph 0056 has been amended to change "to" to –too is the case–.

Paragraph 0064 has been amended to change "heat" to –heart–.

Fig. 4 has been amended to delete the erroneous numeral "62".

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Conclusion

In view of the above, it is submitted that all claims are in condition for allowance. Consideration of the claims is kindly requested. Allowance of claims 1-20 is solicited.

If any questions should arise with respect to the above remarks, or if it would in any way expedite the prosecution of this case, applicants' attorney would appreciate a phone call at (614) 263-8990.

Respectfully submitted,

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CERTIFICATE OF MAILING (37 CFR 1.10)

I hereby certify that the correspondence identified above is being deposited with the United States Postal Service with sufficient postage as Express Mail in an envelope addressed to: Assistant Commissioner of Patents, Washington, DC 20231 on February 10, 2003 . Express Mail Label No.: EU884118683US. Printed name of person signing: Mary L. Pollick

Signature Mary L. Pollick